Class 48
No. 54

MACBETH GLASSWARE

for Commercial Lighting

PATENT OFFICE
OCT 20 1930
Des. DIV. 55

CATALOG NO. 209

Macbeth-Evans Glass Company

Charleroi, Pennsylvania

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Foreword

THE science of illumination is constantly receiving more careful investigation from both technical and artistic angles. In presenting this catalog Macbeth-Evans Glass Company offers textures of glass suitable for all purposes—a selection of decorations from the ultra conservative to vividly modernistic.

Consideration of the information available in these pages and the selection of proper glassware, will assist in the solution of most lighting problems.

Macbeth Lighting Glassware

MONAX—White glass, combining a wax-like texture with uniformly perfect diffusion and maximum efficiency. Manufactured under strict laboratory control from carefully selected materials gathered from the four corners of the earth. Photometric analyses of Monax glass reproduced in this catalog from originals and made as noted under Illuminating Engineering Society Specifications.

CREMAX—Rich creamy tinted, highly diffusing glass. It yields warmth of illumination and artistically blends with surroundings and decorations. It is made from a patented composition.

GALAX—Homogeneous composition of two opacities especially developed for obtaining semi-indirect illumination from a single-piece unit. The bottom of a white, highly reflecting opal glass assures low brightness and a high percentage of light directed upward. The slightly diffusing top yields high transmission with the elimination of ceiling images and shadows. This combination in a single glass assures strength, permanently high lighting efficiency, and simplicity of installation and maintenance. Galax is covered by patent applications and each globe is stamped with the Galax trade-mark.

Design

A wide range of designs from which may be selected patterns suitable for almost any type of installation will be found in the pages of this catalog.

Art Moderne has been expressed conservatively in several unusual shapes which combined with modernistic decorations and multi-tone etchings on crystal glass present a very comprehensive variety of this popular type of lighting glass.

Exterior Lighting

Several pages have been devoted to the illustration of glass for the illumination of streets and parks, also advertising sign globes for stores, service stations and other places of business. All decorations on these globes are applied by the Macbeth fired-color process.

Art Moderne

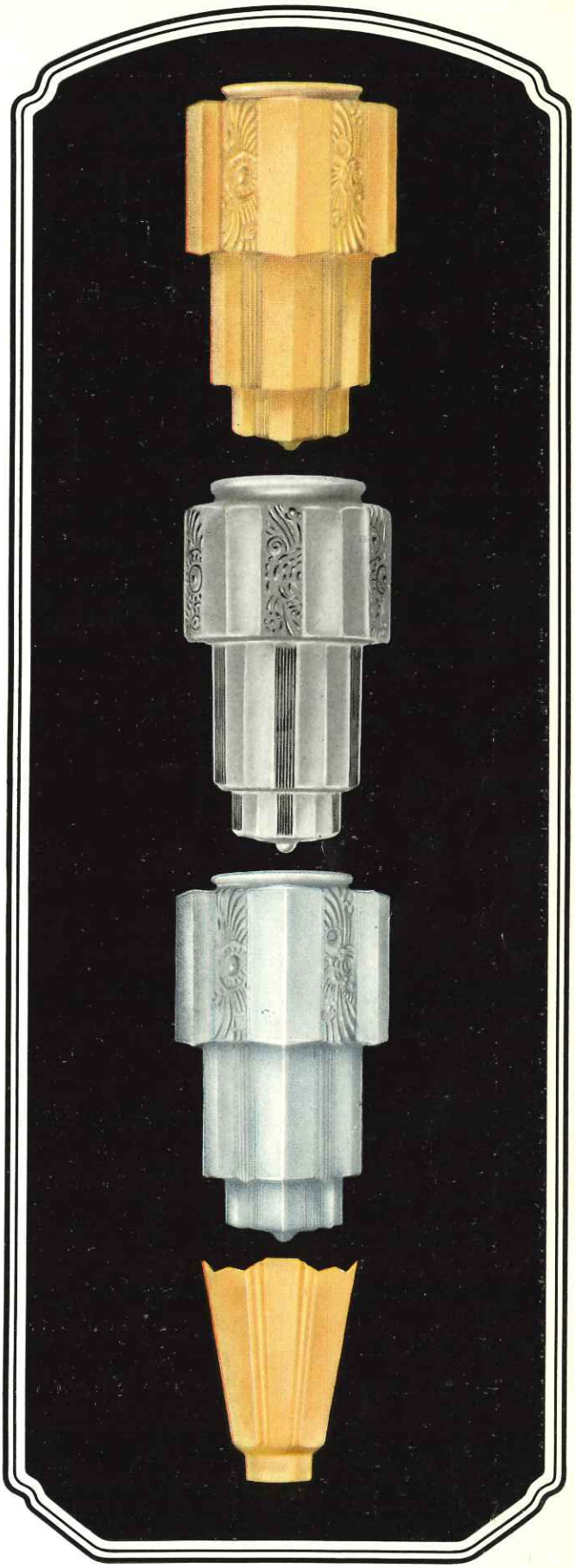
Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
5698-D-144 Cremax	6	9 1/16	4	100	1 above	Ctn. 1/3 Doz.
5695-D-144 Cremax	8 1/16	13 1/2	6	150	1/2 above	Ctn. 1/3 Doz.
5696-D-144 Cremax	12	20	8	300	1 below	Ctn. 1/12 Doz.
†5697-D-144 Cremax	16	27	12	500	3 below	Ctn. 1/12 Doz.

Brown tint permanently fired on Cremax globe.
†For safety use auxiliary support with 12-inch holder.

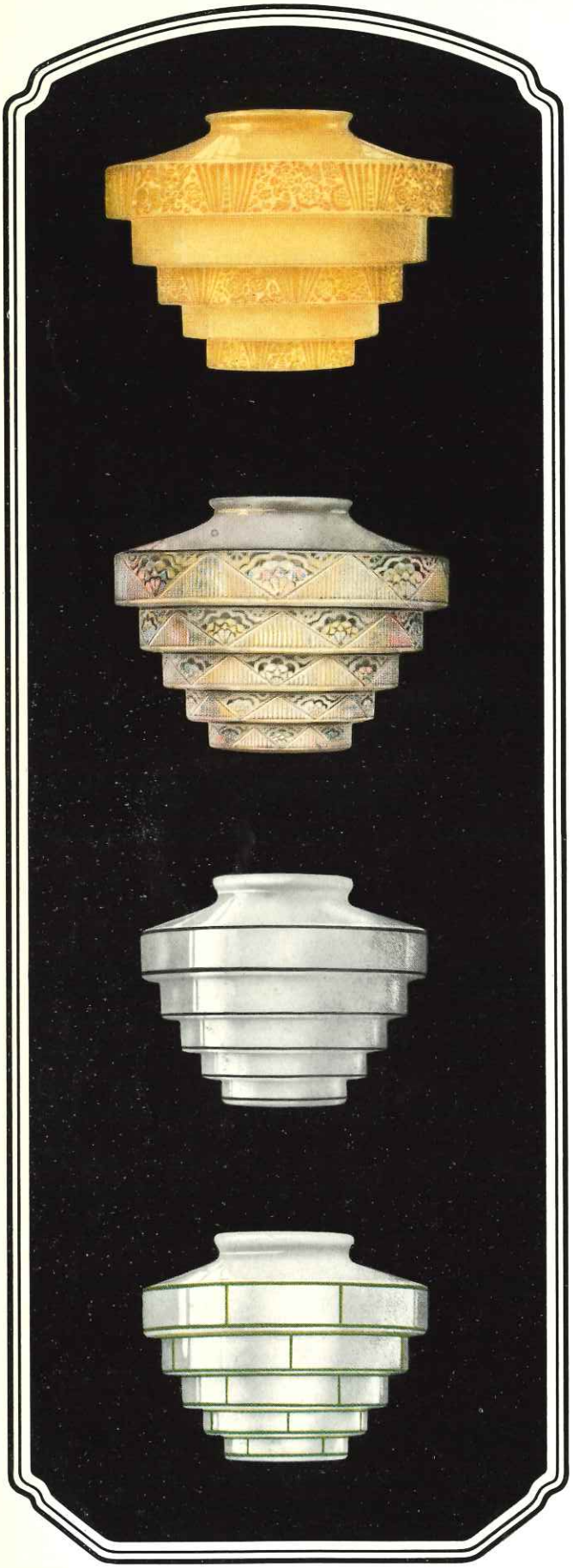
5695 Art Moderne Crystal etched design in relief. Furnished in all sizes.

5695-D-144 Gray tint permanently fired on a plain Monax globe. Furnished in all sizes.

2324 Upright bracket shade, diameter 4 1/16 inches, depth 5 7/8 inches, outside diameter of heel 1 3/4 inches. Furnished in D-144 Monax, D-144 Cremax or Art Moderne (crystal etched). Standard carton 1 dozen.



Figures indicate distance in inches above or below plane of the fitter screws.



The Terrell Line

(Original)

5651-K-308 Light etched brown modernistic decoration. Furnished in all sizes on Cremax glass.

5651-E-3 Deep etched modernistic design, iridescent finish. Furnished in all sizes on Crystal glass.

5651-D-121 Lined decoration. Furnished in all sizes on Monax or Cremax glass. Standard colors blue, brown, green or black. Please specify glass and color.

5649-D-143 Tile decoration. Furnished only in 8-inch size on Monax or Cremax glass. Standard colors green, brown, blue or black. Please specify glass and color.

All colors used for these decorations are permanently fired on the glass.

Macbeth-Evans Glass Company is licensed by M. P. Terrell to manufacture and sell this line of globes under U. S. patent No. 77794.

The Terrell Line

(Original)

2266 Electric shade, diameter 4 inches, depth 4¼ inches, fitter 2¼ inches. Furnished in plain Monax and Cremax, also with K-308, E-3 or D-121 Decorations. Standard carton 1 dozen.

5646 Ceiling bowl, diameter 10 inches, depth 4½ inches. Furnished in plain Monax and Cremax, also K-308, E-3 or D-121 Decorations. Standard carton ⅓ dozen.

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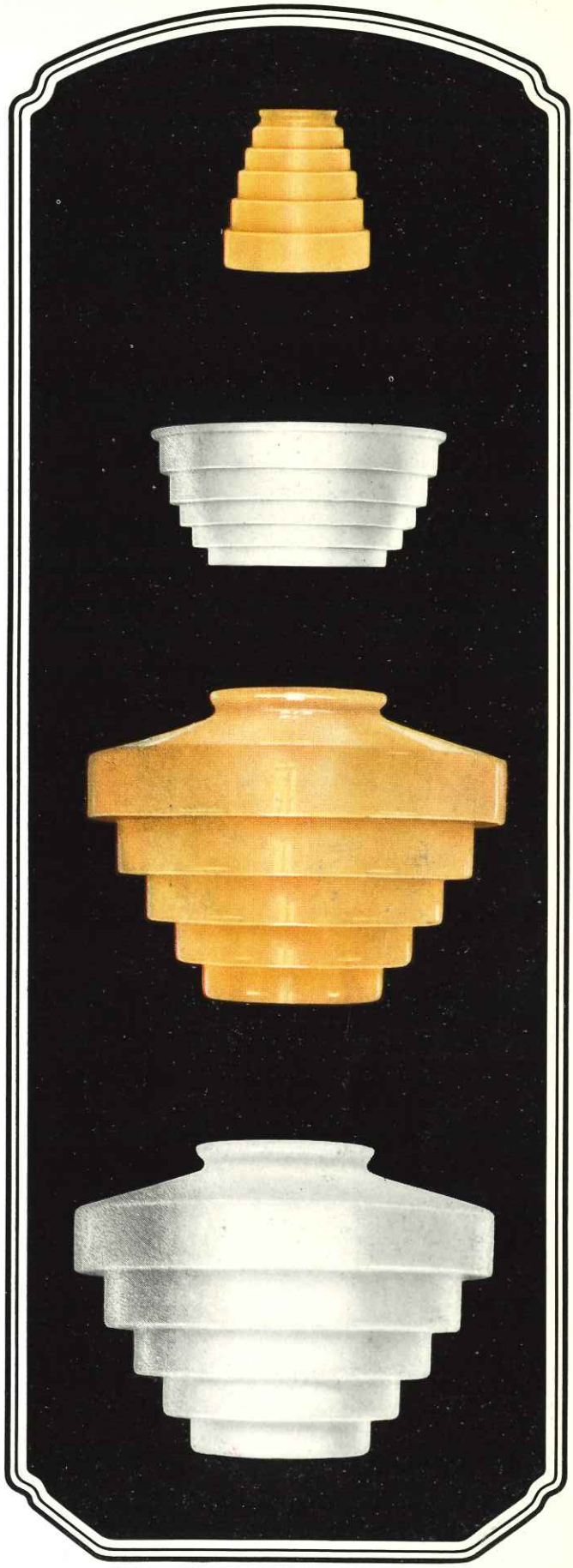
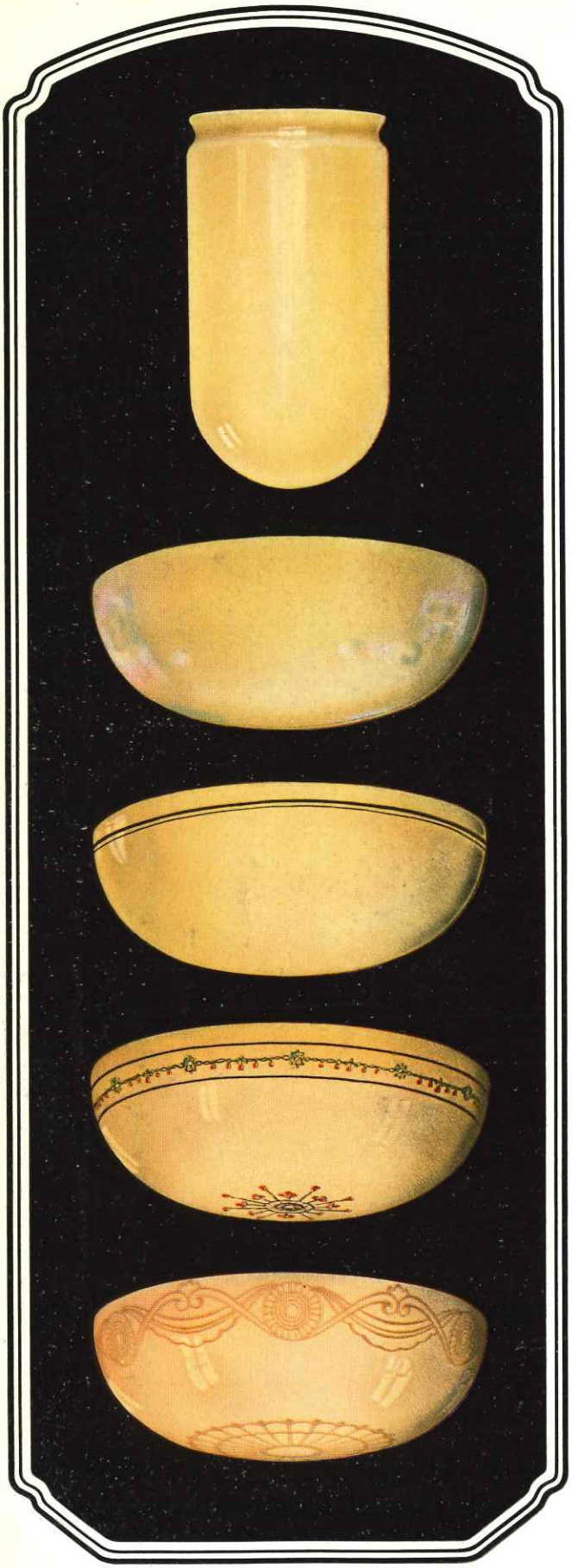
5651 Cremax. Furnished in all sizes.

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
5649	8	6 1/16	4	100	1½ above	Ctn. 1 Doz.
5652	10	7⅜	4	100	1½ above	Ctn. 1/3 Doz.
5653	12	9	6	150	2 above	Ctn. 1/6 Doz.
5653-A	12	9	4	150	1½ above	Ctn. 1/6 Doz.
5651	14	10 3/16	6	200	2 above	Ctn. 1/6 Doz.
5654	16	11½	6	300	2 above	Ctn. 1/6 Doz.

Supplied in Monax or Cremax. Please specify glass.



All colors used in these decorations are permanently fired on the glass.
**Figures indicate distance in inches above or below plane of the fitter screws.*



Cremax—*Romanesque Stalactites and Shallow Bowls*

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Standard Package
2346	4	6	4	60	Ctn. 2 Doz.
4468	4	8	4	100	Ctn. 2 Doz.
4682	5	9½	5	100	Ctn. 1 Doz.
4683	6	11	6	150	Ctn. 1 Doz.
4686	7	14	7	200	Ctn. 1/3 Doz.
4684	8	16	8	300	Ctn. 1/3 Doz.
4685	9	14	9	200	Ctn. 1/3 Doz.
4691	9	18	9	500	Ctn. 1/6 Doz.
4695	10	20	10	750	Ctn. 1/6 Doz.

Romanesque Stalactites supplied only in Cremax glass.

4999	10	3⅛	100	Ctn. 1/2 Doz.
5012	12	3¾	100	Ctn. 1/4 Doz.
5013	14	4⅞	150	Ctn. 1/4 Doz.
5014	16	5	200	Ctn. 1/4 Doz.

Cremax or Cremax Iridescent glass.

D-121 Black lined decoration. Furnished in all sizes on Cremax glass.

K-300 Light etched and decorated design in black and red. Furnished in all sizes on Cremax glass.

K-301 Light etched brown decoration. Furnished in all sizes on Cremax glass.

All colors permanently fired on the glass. Shallow bowls drilled with ½-inch hole in bottom unless otherwise specified.

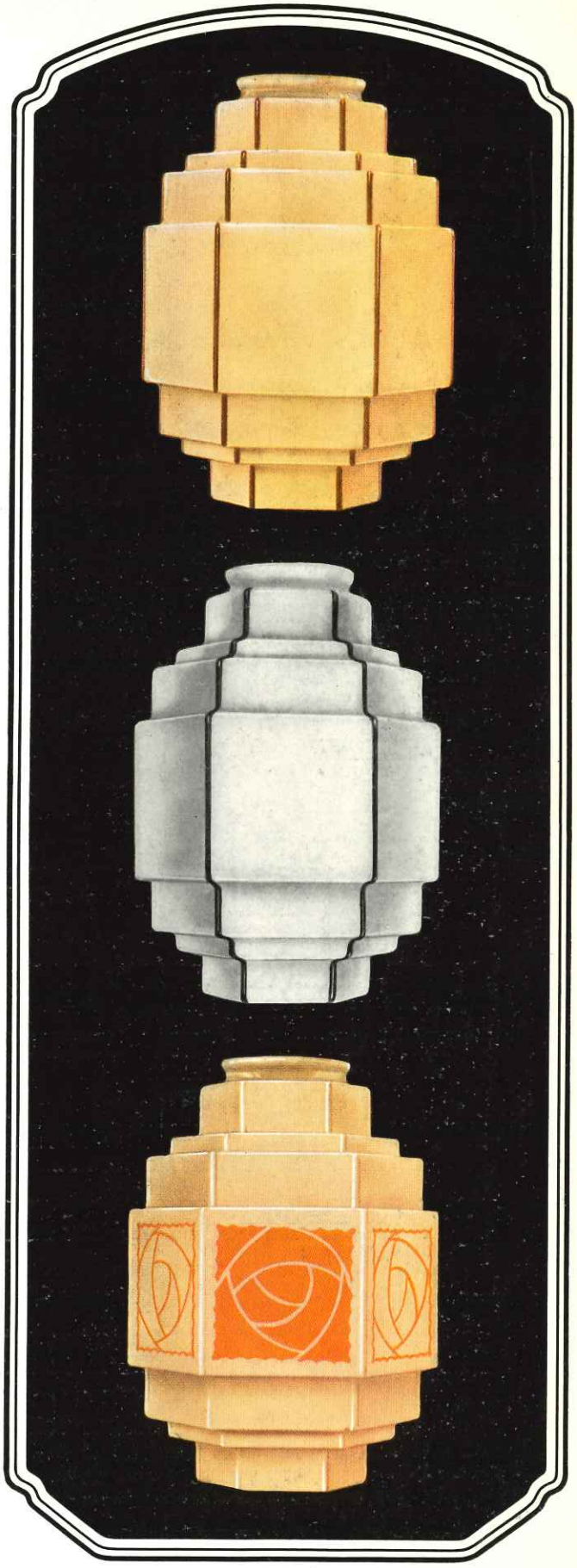
Art Moderne

Glass Number		Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
5676-D-120	Cremax	9¼	12½	4	100	2 below	Ctn. 1/3 Doz.
5677-D-120	Cremax	12	16⅜	6	200	2½ below	Ctn. 1/12 Doz.
5678-D-120	Cremax	14	19	6	300	2½ below	Ctn. 1/12 Doz.

The decoration is furnished only in brown.

5676-D-120 Monax. Furnished in all three sizes with decoration in black only.

5676-K-309 Brown light etching. Furnished in brown only in all three sizes. This decoration is standard only in Cremax glass.



Colors used in these etched and decorated globes are permanently fired on the glass.
**Figures indicate distance in inches above or below plane of the fitter screws.*

PHOTOMETRIC DATA FOR GALAX NUMBER 5885 LINE

Below is shown reproduction of the Electrical Testing Laboratories tests on No. 5885 Macbeth Galax enclosing globe. Additional information and interpretation of these data will be furnished upon request.

ELECTRICAL TESTING LABORATORIES

NEW YORK, N. Y.

REPORT No. 47508 ORDER No. 42036-S PLATE No. 22240

CANDLEPOWER DISTRIBUTION

NO. 5885 GALAX SEMI-INDIRECT GLOBE* (GROUP 4 NO. 1)

Rendered to Macbeth Evans Glass Company

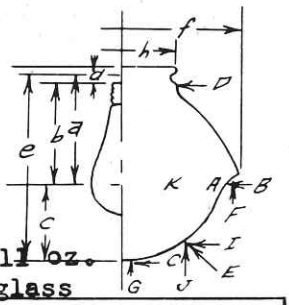
No. Submitted - One

Lamp - 200-Watts; Gasfilled; 3340 Lumens; Bulb PS30 Clear; Medium base; Filament C9; General service; 115 Volts
Holder - None submitted - Surface covering globe opening - refl. fac. 0.40.

Procedure - Luminaire rotated.

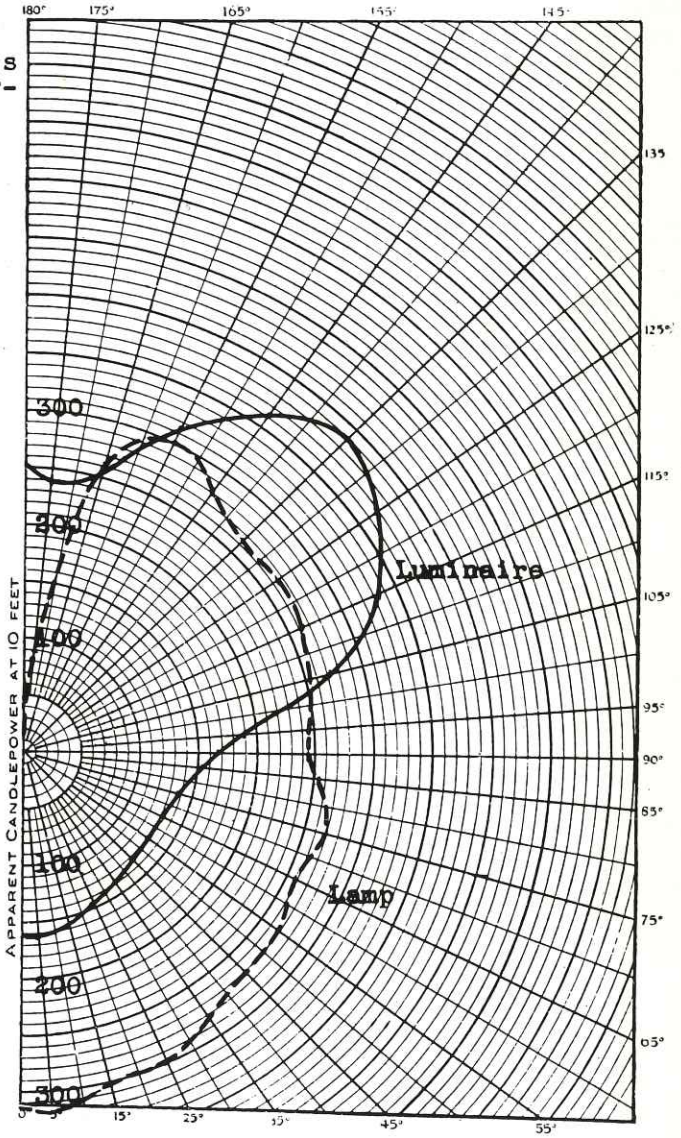
Dimensions of Luminaire

a	6-1/2 in.
b	6
c	5-1/4
d	1/2
e	12
f	14
h	6



Weight of glass 4 lb. 11 oz.

White diffusing glass



LUMINAIRE DISTRIBUTION DATA

Mean Vertical

MID-ZONE ANGLES	APPARENT CANDLEPOWER AT 10 FEET	ZONAL LUMENS	MID-ZONE ANGLES	APPARENT CANDLEPOWER AT 10 FEET	ZONAL LUMENS
180° ZEN.	254		90° HOR.	166	
175°	237	22	85°	153	167
165°	262	74	75°	137	145
155°	315	146	65°	131	130
145°	361	226	55°	130	117
135°	390	302	45°	131	101
125°	370	332	35°	140	88
115°	336	333	25°	148	54
105°	272	288	15°	158	45
95°	189	206	5°	162	15
			0° NADIR.	161	

LIGHT FLUX VALUES

ZONE	LUMENS		PERCENT TOTAL LUMENS BARE LAMP	PERCENT LIGHT OUTPUT
	LAMP	LUMINAIRE		
0° - 60°	884	420	13	
0° - 90°	1706	862	26	84
90° - 180°	1634	1929	58	
0° - 180°	3340	2791	84	

LUMINAIRE BRIGHTNESS

MILLILAMBERTS AND CANDLEPOWER PER SQUARE INCH

Locations	A	B	C	D	E	F	G	H	I	J	K
ML.	600	700	760	840	840	380	900		680	700	650
Cp. per Sq. In.	1.2	1.4	1.6	1.7	1.7	0.78	1.85		1.4	1.4	1.3

NOTE: THE ARROWS INDICATE THE LOCATION AND ANGLE OF VIEW *E.T.L. Identification No. 3155.

TESTED BY [illegible] PLOTTED BY [illegible] COMPUTED BY [illegible] CHECKED BY [illegible] ISSUED May 20, 1929.

APPROVED BY William F. Little
ENGINEER IN CHARGE OF PHOTOMETRY

IN CHARGE OF TEST

Macbeth Galax

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
5883	10	8 13/16	4	100	½ below	Ctn. 1/3 Doz.
5884-A	12	10¼	4	150	½ below	Ctn. 1/6 Doz.
5884	12	10¼	6	150	½ below	Ctn. 1/6 Doz.
5885	14	12	6	200	½ below	Ctn. 1/6 Doz.
5886	16	13 11/16	6	300	½ below	Ctn. 1/12 Doz.

Supplied only in Galax glass—newest Macbeth development. One-piece glass with dual opacity. The bottom portion is of dense white-reflecting opal glass. The upper portion of light opacity slightly diffusing glass. Neither portion is cased nor enamelled—one piece of glass of two different densities.

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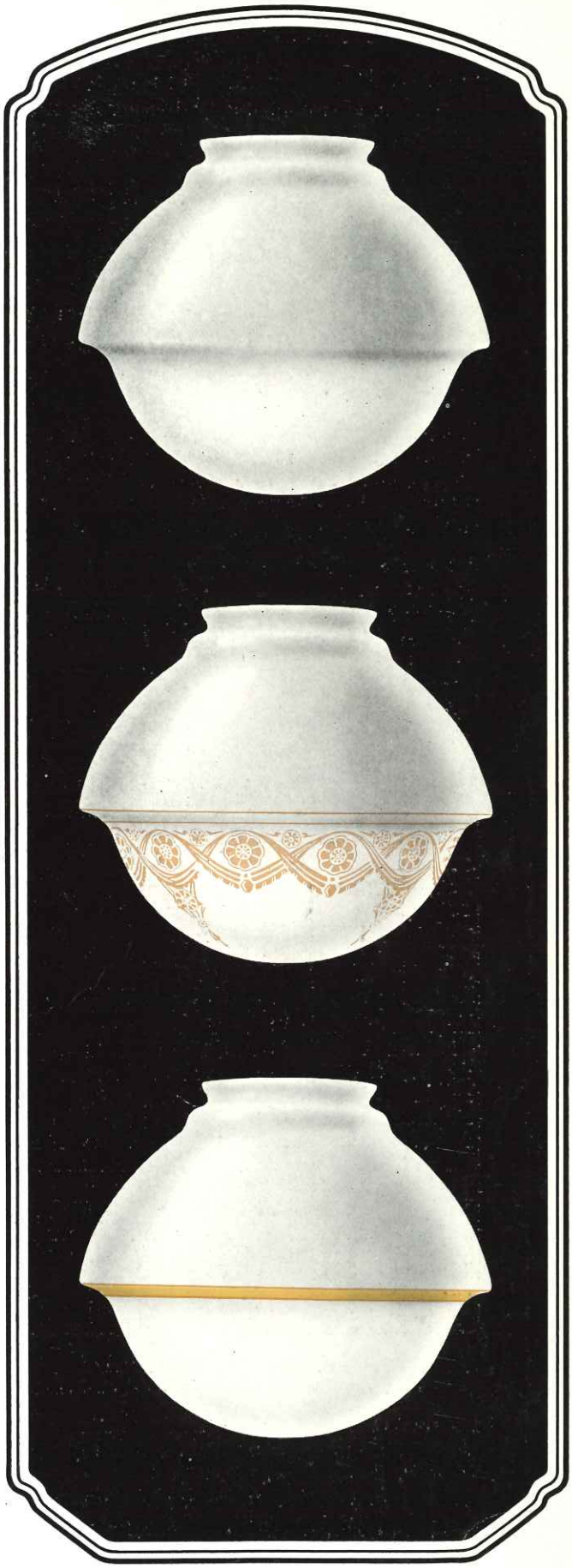
5885-K-316 Light etching on Galax glass. Furnished in all sizes in brown or gray. Please specify color.

5885-D-56 Banded decoration. Furnished in all sizes on Galax glass. Standard colors brown, blue, gray or green. Please specify color.



All colors are permanently fired on Galax glass. Patents fully covering Galax glass have been applied for. The name Galax has been registered.

**Figures indicate distance in inches below plane of the fitter screws.*

PHOTOMETRIC DATA FOR MONAX NUMBER 5297 LINE

Below is shown reproduction of Electrical Testing Laboratories tests on No. 5297 Macbeth Monax enclosing globe, made according to the I. E. S.—N. E. L. A. specifications. Additional information and interpretation of these data will be furnished upon request.

ELECTRICAL TESTING LABORATORIES

GENERAL OFFICE AND LABORATORIES

80TH ST AND EAST END AVE

NEW YORK

REPORT NO. 47052

TEST OF LIGHTING GLASSWARE

No. 5297 Macbeth Monax Globe

Rendered to the Macbeth Evans Glass Company

Order No. 40367-S

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Monax and Cremax Glass

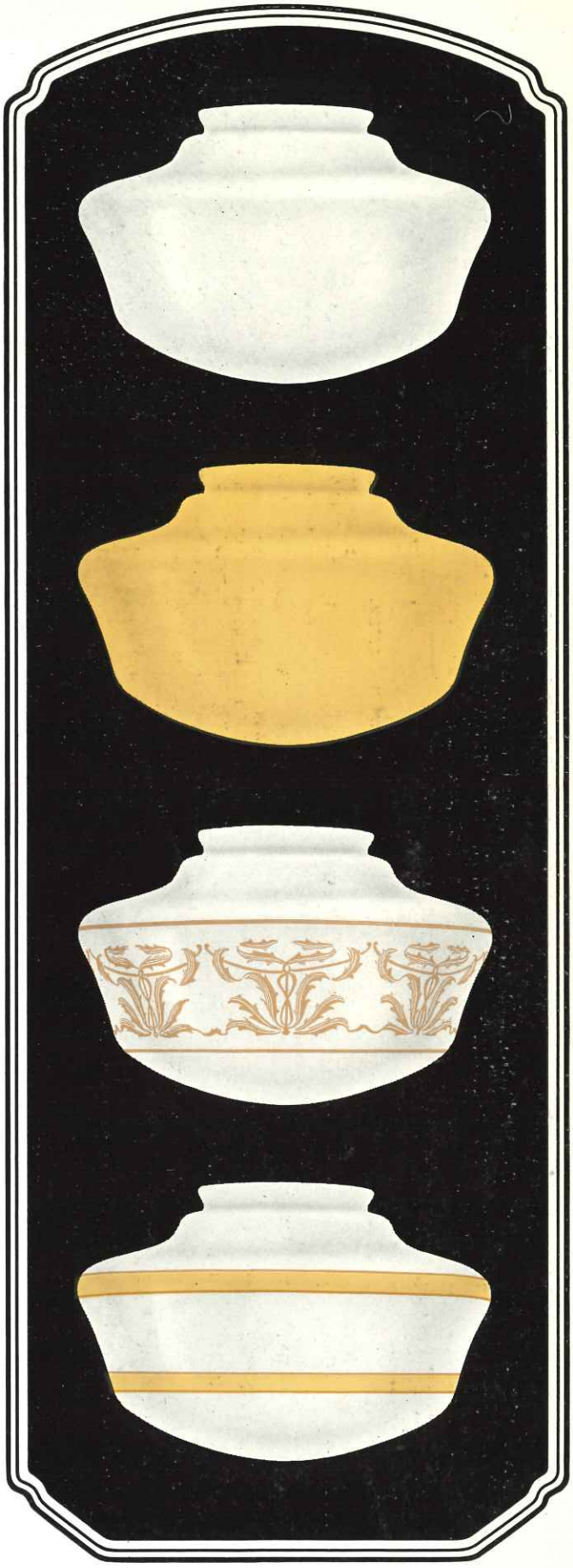
Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
5294-A	8½	5⁹⁄₁₆	4	100	1½ above	Ctn. 1 Doz.
5340	9	6½	4	100	1½ above	Ctn. 1 Doz.
5295	10	6½	4	100	1½ above	Ctn. 1/3 Doz.
5296	12	7¾	6	150	2 above	Ctn. 1/4 Doz.
5296-A	12	7¾	4	150	1½ above	Ctn. 1/4 Doz.
5297	14	9	6	200	2 above	Ctn. 1/6 Doz.
5298	16	10¼	6	300	2 above	Ctn. 1/6 Doz.
5666	20	12¾	8	750	3 above	Ctn. 1/12 Doz.

Supplied in Monax, Cremax or Superior. Please specify glass.

5297 Cremax. Furnished in all sizes.

5297-J-103 Brown printed decoration. Furnished in all sizes on either Monax or Cremax. Please specify glass.

5297-D-56 Banded decoration. Furnished in all sizes on either Monax or Cremax glass. Standard colors brown, blue, gray or green. Please specify glass and color of decoration.



Colors for both printed and banded decorations are permanently fired on the glass.
**Figures indicate distance in inches above plane of the fitter screws.*

PHOTOMETRIC DATA FOR MONAX NUMBER 5130 LINE

Below is shown reproduction of Electrical Testing Laboratories test on No. 5130 Macbeth Monax enclosing globe, made according to the I. E. S.—N. E. L. A. specifications. Additional information and interpretation of these data will be furnished upon request.

ELECTRICAL TESTING LABORATORIES

GENERAL OFFICE AND LABORATORIES

80TH ST. AND EAST END AVE

NEW YORK

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REPORT NO.47042

TEST OF LIGHTING GLASSWARE

No.5130 Macbeth Monax Globes

Rendered to the Macbeth Evans Glass Company

Order No.40367-S

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Monax and Cremax Glass

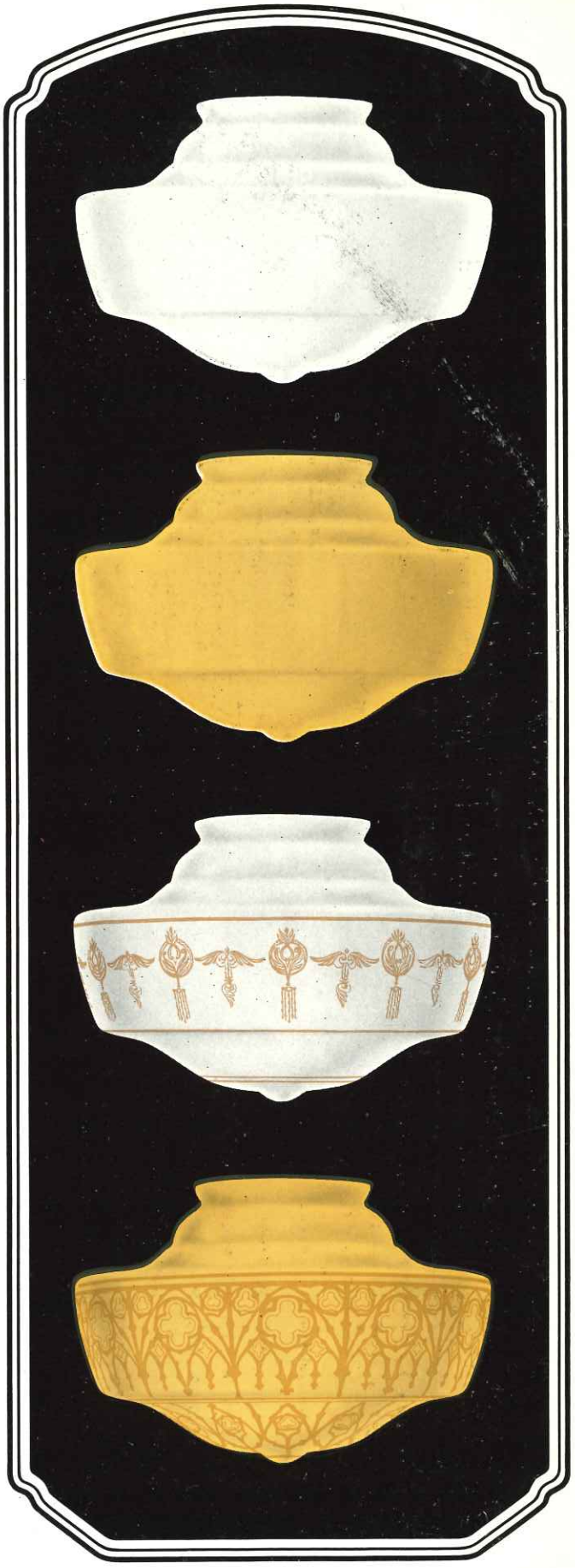
Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
5122	9	5⅞	4	100	1½ above	Ctn. 1 Doz.
5123	12	7⅝	6	150	2 above	Ctn. 1/4 Doz.
5123-A	12	7⅝	4	100	1½ above	Ctn. 1/4 Doz.
5130	14	9³⁄₁₆	6	200	2 above	Ctn. 1/6 Doz.
5133	16	10¼	6	300	2 above	Ctn. 1/6 Doz.
5138	18	11½	8	500	3 above	Ctn. 1/12 Doz.

Supplied either in Monax or Cremax. Please specify glass.

5130 Cremax. Furnished in all sizes.

5130-J-104 Brown printed decoration. Furnished in all sizes on either Monax or Cremax. Please specify glass.

5130-K-1080 Brown light etched decoration. Furnished in all sizes on either Monax or Cremax. Please specify glass.



Decorations applied only in brown as illustrated. Colors for both printed and light etched designs are permanently fired on the glass.

**Figures indicate distance in inches above plane of the fitter screws.*

PHOTOMETRIC DATA FOR MONAX NUMBER 5282-A LINE

Below is shown reproduction of Electrical Testing Laboratories test on No. 5282-A Macbeth Monax enclosing globe, made according to the I. E. S.—N. E. L. A. specifications. Additional information and interpretation of these data will be furnished upon request.

ELECTRICAL TESTING LABORATORIES

GENERAL OFFICE AND LABORATORIES
80TH ST. AND EAST END AVE.
NEW YORK

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REPORT NO. 47233

TEST OF LIGHTING GLASSWARE

NO.5282-A MACBETH MONAX GLOBE

Rendered to Macbeth Evans Glass Company

Order No. 41095-S

0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0

Data Required

Test in compliance with I.E.S. Standard Specifications for testing commercial lighting glassware.

Selection

The selection of samples for this test was made at the Charleroi plant of the Macbeth Evans Glass Company by Mr. H. D. Mall representing the Electrical Testing Laboratories. In compliance with the specifications a group of twenty-five samples were chosen at random from the lot of globes offered for inspection and weighed. This sampling represented eleven percent of the globes available. Of the twenty-five globes weighed six samples representing the maximum, minimum and four of average weight were selected and forwarded to the Electrical Testing Laboratories for tests. This selection was a fair sampling from the standpoint of appearance of the product examined.

E.T.L. Identification No.	Weight Ounces	Light Output Percent Test in accordance with Specifications	Exception*
2047	47	86	90
2048	49	85	88.5
2049	44	86	89
2050	48	84.5	88.5
2051	49	84	88
2052	55	86	89

Remarks -

Exceptions specified by manufacturer.
*Surface having a reflection factor of 70 percent was used over the globe opening.

Note: The results shown in this report are reproducible only when the conditions of test, particularly the light center position, are maintained in use.

Checked by: J.M.F.

ELECTRICAL TESTING LABORATORIES

NEW YORK, N. Y.

REPORT No. 47233 ORDER No. 41095-S PLATE No. 21869

CANDLEPOWER DISTRIBUTION
NO.5282-A MACBETH MONAX GLOBE*

Rendered to Macbeth Evans Glass Company

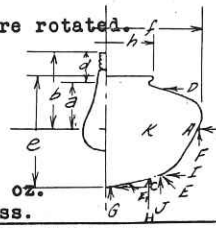
No.Submitted - Six - Light output range - 84-86 - average 85 percent.

Lamp - 200 Watts; Gas-filled; 3280 lumens; Bulb PS30 Clear; Medium base; Filament C-9; General service; 115 Volts.
Holder - None submitted - Surface covering globe opening - reflection factor 40 percent.

Procedure - Luminaire rotated.

DIMENSIONS OF LUMINAIRE

a 4 in.
b 6
c
d 2
e 8-1/4
f 14-1/4
h 6



WEIGHT OF GLASS 3 lb. 1 oz.
White diffusing glass.

LUMINAIRE DISTRIBUTION DATA

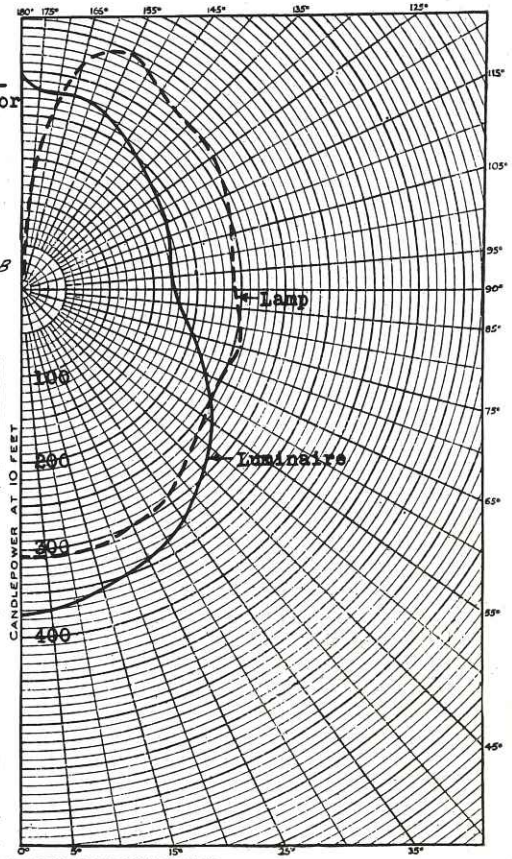
Mean Vertical

MID-ZONE ANGLES	APPARENT CANDLEPOWER AT 10 FEET	ZONAL LUMENS	MID-ZONE ANGLES	APPARENT CANDLEPOWER AT 10 FEET	ZONAL LUMENS
180° ZEN.	245		90° HOR.	172	
175°	229	22	85°	180	196
165°	229	65	75°	202	214
155°	223	103	65°	232	231
145°	208	131	55°	264	237
135°	198	153	45°	293	227
125°	187	168	35°	325	204
115°	183	182	25°	345	160
105°	174	184	15°	356	101
95°	171	187	5°	371	35
			0° NADIR	375	

LIGHT FLUX VALUES

ZONE	LUMENS LAMP	LUMENS LUMINAIRE	PERCENT TOTAL LUMENS BARE LAMP	PERCENT LIGHT OUTPUT
0°-60°	877	964	29	85
0°-90°	1665	1605	49	
90°-180°	1615	1195	36	
0°-180°	3280	2800	85	

LUMINAIRE BRIGHTNESS



MILLILAMBERTS AND CANDLEPOWER PER SQUARE INCH
THE ARROWS INDICATE THE LOCATION AND ANGLE OF VIEW

LOCATIONS	A	B	C	D	E	F	G	H	I	J	K	e1
ML.	1200	1300	1600	1200	1450	900	1950	1600	1100	1250	1250	1650
CP. PER SQ. IN.	2.5	2.7	3.3	3.5	3.0	1.85	4.0	3.3	2.3	2.6	2.6	3.4

TESTED BY Rnd PLOTTED BY Ow COMPUTED BY Ow CHECKED BY JMF ISSUED Feb. 9, 1929.

*E.T.L. Identification No. 2048.

APPROVED BY William T. Little
ENGINEER IN CHARGE OF PHOTOMETRY

J. Morroz
IN CHARGE OF TEST

Monax Glass

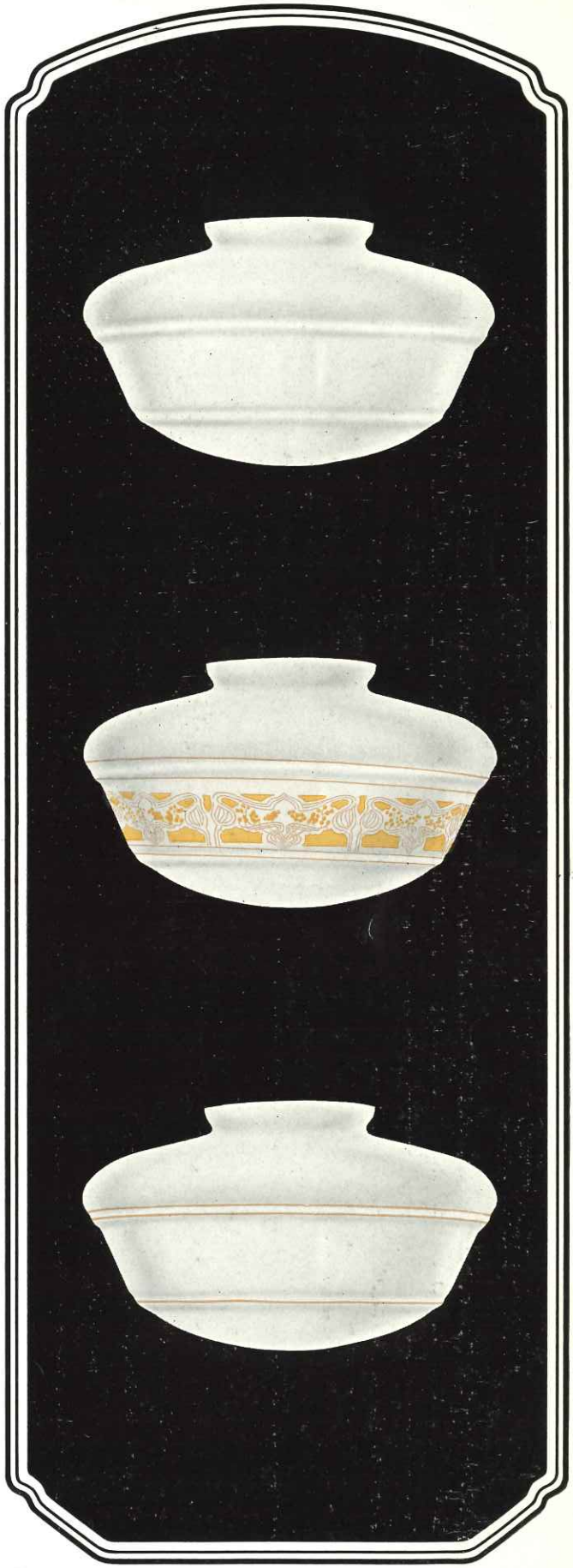
Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
5263	8½	5½	4	100	1½ above	Ctn. 1 Doz.
5326	9	6	4	100	1½ above	Ctn. 1 Doz.
5268	10	6⅜	4	100	1½ above	Ctn. 1/3 Doz.
5269	12⅜	7¾	6	150	2 above	Ctn. 1/4 Doz.
5269-A	12⅜	7¾	5	150	1½ above	Ctn. 1/4 Doz.
5269-B	12⅜	7¾	4	150	1½ above	Ctn. 1/4 Doz.
5282	14⅜	8⅜	5	200	2 above	Ctn. 1/6 Doz.
5282-A	14⅜	8⅜	6	200	2 above	Ctn. 1/6 Doz.
5270	16	10	6	300	2 above	Ctn. 1/6 Doz.

Supplied in Monax glass.

5282-A K-313 Light etched decoration. Furnished in all sizes on Monax glass. Colors only as illustrated.

5282-A D-121 Lined decoration. Furnished in all sizes on Monax glass. Standard colors blue, brown, gray or green. Please specify color.

Colors for both lined and light etched decorations are permanently fired on the glass.
**Figures indicate distance in inches above plane of the fitter screws.*



PHOTOMETRIC DATA FOR MONAX NUMBER 5198 LINE

Below is shown reproduction of Electrical Testing Laboratories test on No. 5198 Macbeth Monax enclosing globe made according to the I. E. S.—N. E. L. A. specifications. Additional information and interpretation of these data will be furnished upon request.

ELECTRICAL TESTING LABORATORIES

GENERAL OFFICE AND LABORATORIES
80TH ST. AND EAST END AVE
NEW YORK

****

REPORT NO. 47249

TEST OF LIGHTING GLASSWARE

NO.5198 MACBETH MONAX GLOBES*

Rendered to Macbeth Evans Glass Company

Order No. 41095-S

o-o-o-

Monax Glass

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
5179	8	6	4	100	1½ above	Ctn. 1 Doz.
5881	9	6¾	4	100	1½ above	Ctn. 1/3 Doz.
5196	10	7½	6	100	2 above	Ctn. 1/3 Doz.
5196-A	10	7½	4	100	1½ above	Ctn. 1/3 Doz.
5197	12	9½	6	150	2 above	Ctn. 1/6 Doz.
5197-A	12	9½	4	150	1½ above	Ctn. 1/6 Doz.
5198	14	11⅛	6	200	2 above	Ctn. 1/6 Doz.
5199	16	12¾	6	300	2 above	Ctn. 1/6 Doz.

Supplied only in Monax glass.

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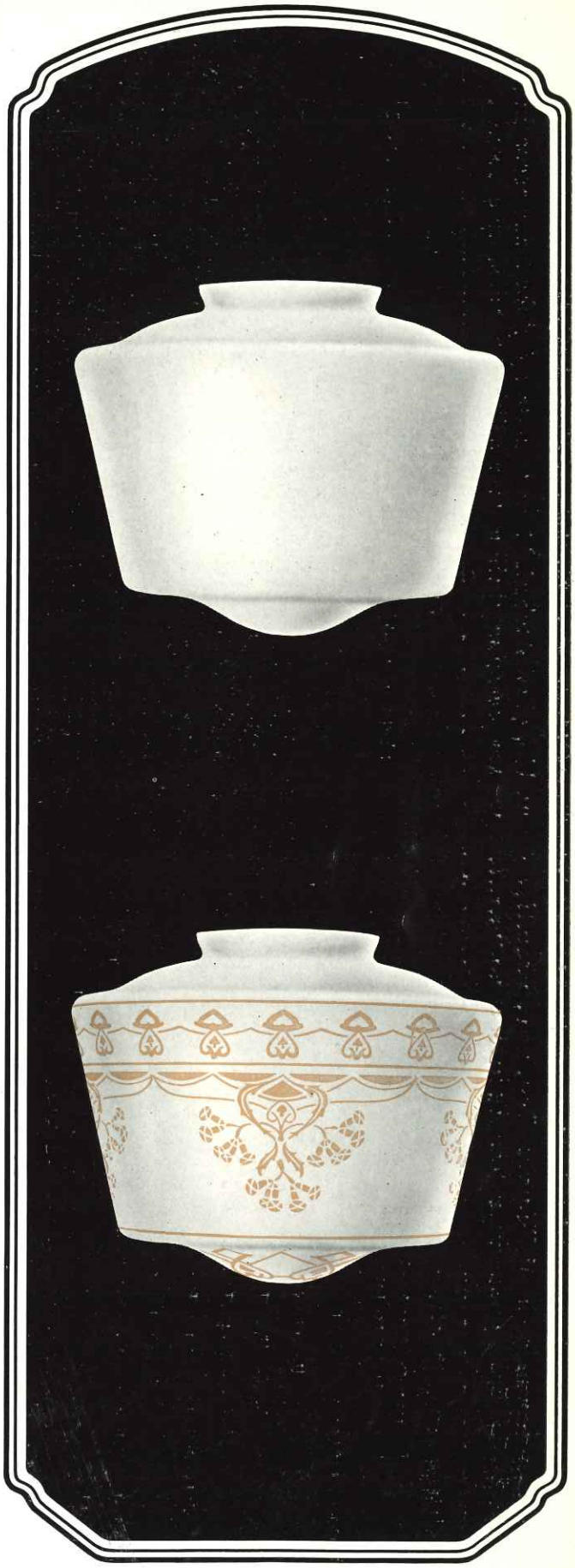


5198-K-314 Brown light etched decoration. Furnished in all sizes in brown only.

Color for this light etched decoration is permanently fired on the glass.
**Figures indicate distance in inches above plane of the fitter screws.*

PHOTOMETRIC DATA FOR MONAX NUMBER 3756 LINE

Below is shown reproduction of Electrical Testing Laboratories test on No. 3756 Macbeth Monax enclosing globe, made according to the I. E. S.—N. E. L. A. specifications. Additional information and interpretation of these data will be furnished upon request.

ELECTRICAL TESTING LABORATORIES

GENERAL OFFICE AND LABORATORIES
80TH ST. AND EAST END AVE.
NEW YORK

****

REPORT NO.47046

TEST OF LIGHTING GLASSWARE

No.3756 Macbeth Monax Globes

Rendered to the Macbeth Evans Glass Company

Order No.40367-S

o-o-o-o-oo-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-

Data Required

Test in compliance with I.E.S. Standard Specifications for testing commercial lighting glassware.

Selection

The selection of samples for this test was made at the Charleroi plant of the Macbeth Evans Glass Company by Mr. William F. Little, Engineer in Charge of Photometry, at the Electrical Testing Laboratories. In compliance with the specifications a group of 25 samples were chosen at random from the lot of globes offered for inspection and weighed. This sampling represented 12 per cent of the globes available. Of the 25 globes weighed six samples representing the maximum, minimum and four of average weight were selected and forwarded to the Electrical Testing Laboratories for tests. This selection was a fair sampling of the product from the standpoint of appearance.

E.T.L. Identification No.	Weight Ounces	Light Output Per cent Test in accordance with Specifications	Exception*
1952	39	85	88
1953	45	83	87
1954	45	83	87
1955	45	86	89.5
1956	45	85.5	88.5
1957	54	84.5	88

Remarks -

Exceptions specified by manufacturer -
*Surface having a reflection factor of 70 per cent was used over the globe opening.

Note The results shown in this report are reproducible only when the conditions of test, particularly the light center position, are maintained in use.

Checked by: M.A.W

ELECTRICAL TESTING LABORATORIES

NEW YORK, N. Y.

REPORT No. 47046 ORDER No. 40367-S PLATE No. 21607

CANDLEPOWER DISTRIBUTION
NO.3756 MACBETH MONAX GLOBE*

Rendered to Macbeth-Evans Glass Company

Number Submitted - Six - Light output range 83-86. Average 84.5 percent.

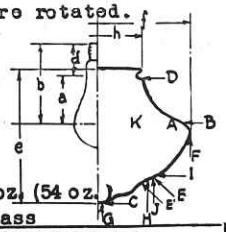
Lamp - 200-Watts; Gasfilled; 3280 Lumens; Bulb PS30 Clear; Medium base; Filament C9; General Service; 115 Volts.

Holder - None submitted - Surface covering globe opening; refl. fac. 40 percent.

Procedure - Luminaire rotated.

DIMENSIONS OF LUMINAIRE

a	4 in.
b	6
c	
d	2
e	10-1/4
f	13-3/4
h	6



WEIGHT OF GLASS 3 lb. 6 oz. (54 oz.)

White Diffusing Glass

LUMINAIRE DISTRIBUTION DATA

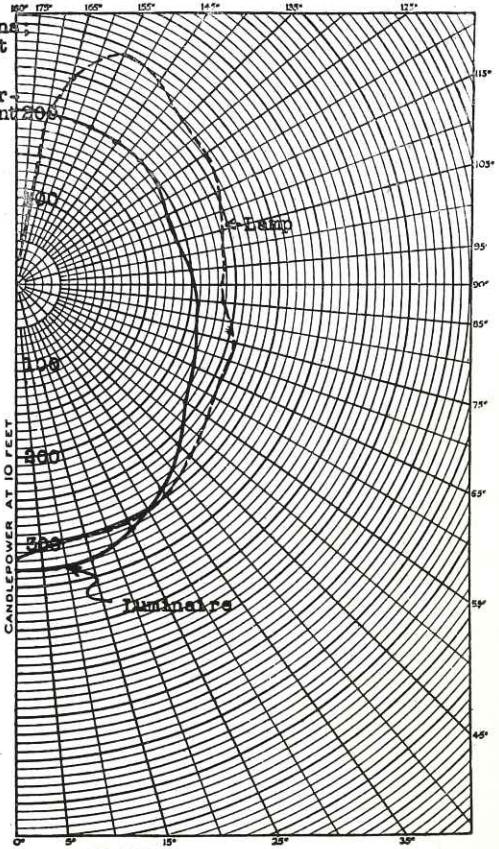
Mean Vertical

MID-ZONE ANGLES	APPARENT CANDLEPOWER AT 10 FEET	ZONAL LUMENS	MID-ZONE ANGLES	APPARENT CANDLEPOWER AT 10 FEET	ZONAL LUMENS
180° ZEN.	200		90° HOR.	201	
175°	200	17	85°	207	226
165°	200	57	75°	212	224
155°	200	93	65°	223	221
145°	200	126	55°	234	210
135°	200	155	45°	261	202
125°	197	177	35°	290	182
115°	189	188	25°	312	144
105°	190	201	15°	330	93
95°	200	218	5°	330	31
			0° NADIR	330	

LIGHT FLUX VALUES

ZONE	LUMENS LAMP	LUMENS LUMINAIRE	PERCENT TOTAL LUMENS BARE LAMP	PERCENT LIGHT OUTPUT
0°-60°	899	862	26	
0°-90°	1688	1533	47	84.5
90°-180°	1595	1232	37.5	
0°-180°	3283	2765	84.5	

LUMINAIRE BRIGHTNESS



MILLILAMBERTS AND CANDLEPOWER PER SQUARE INCH
THE ARROWS INDICATE THE LOCATION AND ANGLE OF VIEW

LOCATIONS	A	B	C	D	E	F	G	H	I	J	K	E 1
ML.	1100	1300	1150	1800	1300	960	1150	1250	1200	1250	1200	1400
CP. PER SQ. IN.	2.3	2.7	2.4	3.7	2.7	2.0	2.4	2.6	2.5	2.6	2.5	2.9

*E.T.L. Identification No.1957.

TESTED BY W.S. PLOTTED BY W.S. COMPUTED BY J.S. CHECKED BY W.T. ISSUED Nov.22, 1928.

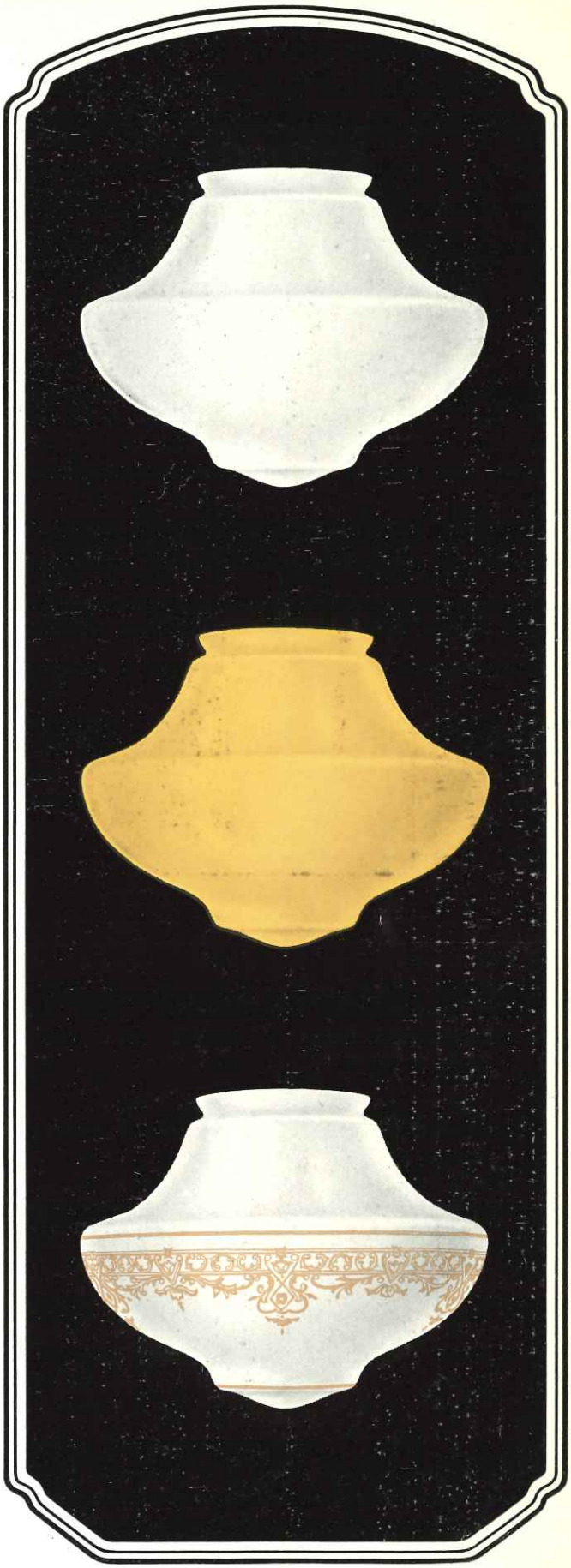
APPROVED BY William F. Little ENGINEER IN CHARGE OF PHOTOMETRY

J. Torraz IN CHARGE OF TEST

Monax and Cremax Glass

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
4385	10	7⅝	4	100	1½ above	Ctn. 1/3 Doz.
4309	12	9½	6	150	2 above	Ctn. 1/6 Doz.
4309-A	12	9½	4	150	1½ above	Ctn. 1/6 Doz.
3756	14	10	6	200	2 above	Ctn. 1/6 Doz.
4386	16	12	6	300	2 above	Ctn. 1/6 Doz.
5667	18	13½	8	500	3 above	Ctn. 1/12 Doz.

Supplied either in Monax or Cremax. Please specify glass.



3756 Cremax. Furnished in all sizes.

3756-J-95 Brown printed decoration. Furnished in all sizes on either Monax or Cremax. Please specify glass.

Decoration applied only in brown as illustrated. Color permanently fired on the glass.
**Figures indicate distance in inches above plane of the fitter screws.*

PHOTOMETRIC DATA FOR MONAX NUMBER 5290 LINE

Below is shown reproduction of Electrical Testing Laboratories test on No. 5290 Macbeth Monax enclosing globe. Additional information and interpretation of these data will be furnished upon request.

ELECTRICAL TESTING LABORATORIES

GENERAL OFFICE AND LABORATORIES

80TH ST AND EAST END AVE

NEW YORK

****

REPORT NO.47980

LIGHT OUTPUT AND DISTRIBUTION TEST OF

NO.5290 MACBETH MONAX GLOBES

Rendered to the Macbeth-Evans Glass Co.

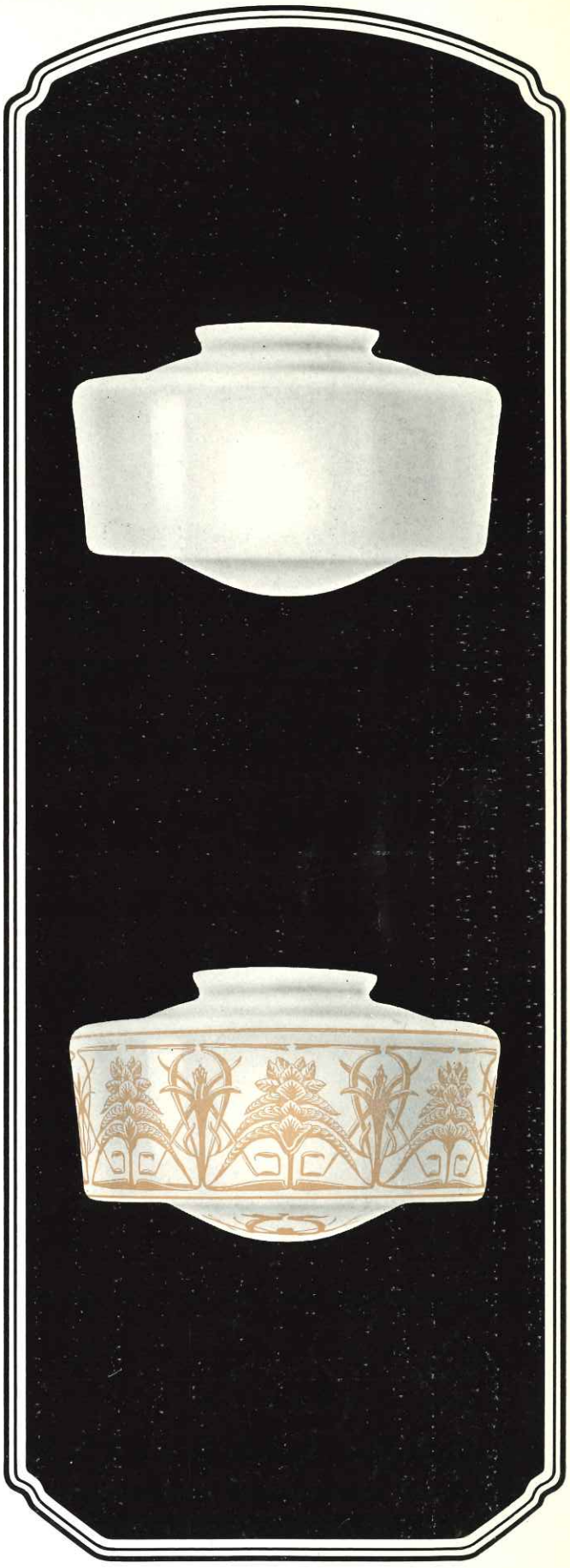
Order No.43646-S

o-o-o-

Monax Glass

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
5288	8	5¾	4	100	1½ above	Ctn. 1 Doz.
5257	9	6⅜	4	100	1½ above	Ctn. 2/3 Doz.
5285	10	7⅛	4	100	1½ above	Ctn. 1/3 Doz.
5274	12	7¼	6	150	2 above	Ctn. 1/4 Doz.
5289	12	7¼	5	150	2 above	Ctn. 1/4 Doz.
5290	14	8¼	6	200	2 above	Ctn. 1/6 Doz.
5291	16	11 7/16	6	300	2 above	Ctn. 1/6 Doz.

Supplied only in Monax glass.



5290-J-105 Brown printed decoration. Furnished in all sizes in brown only.

Color for this printed decoration is permanently fired on the glass.
**Figures indicate distance in inches above plane of the fitter screws.*

PHOTOMETRIC DATA FOR MONAX NUMBER 3866-A LINE

Below is shown reproduction of Electrical Testing Laboratories tests on No. 3866-A Macbeth Monax enclosing globe, made according to the I. E. S.—N. E. L. A. specifications. Additional information and interpretation of these data will be furnished upon request.

ELECTRICAL TESTING LABORATORIES

GENERAL OFFICE AND LABORATORIES

80TH ST AND EAST END AVE

NEW YORK

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REPORT NO.47032

TEST OF LIGHTING GLASSWARE

No.3866-A Macbeth Monax Globes

Rendered to the Macbeth Evans Glass Company

Order No.40367-S

o-o-o-

Monax Glass

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
3870	8	9⅝	4	100	0	Ctn. 2/3 Doz.
3864	10	11⅞	6	150	0	Ctn. 1/6 Doz.
3869	12	14	6	200	0	Ctn. 1/6 Doz.
3866-A	14	16½	6	300	0	Ctn. 1/12 Doz.

Supplied in Monax or Superior. Please specify glass.

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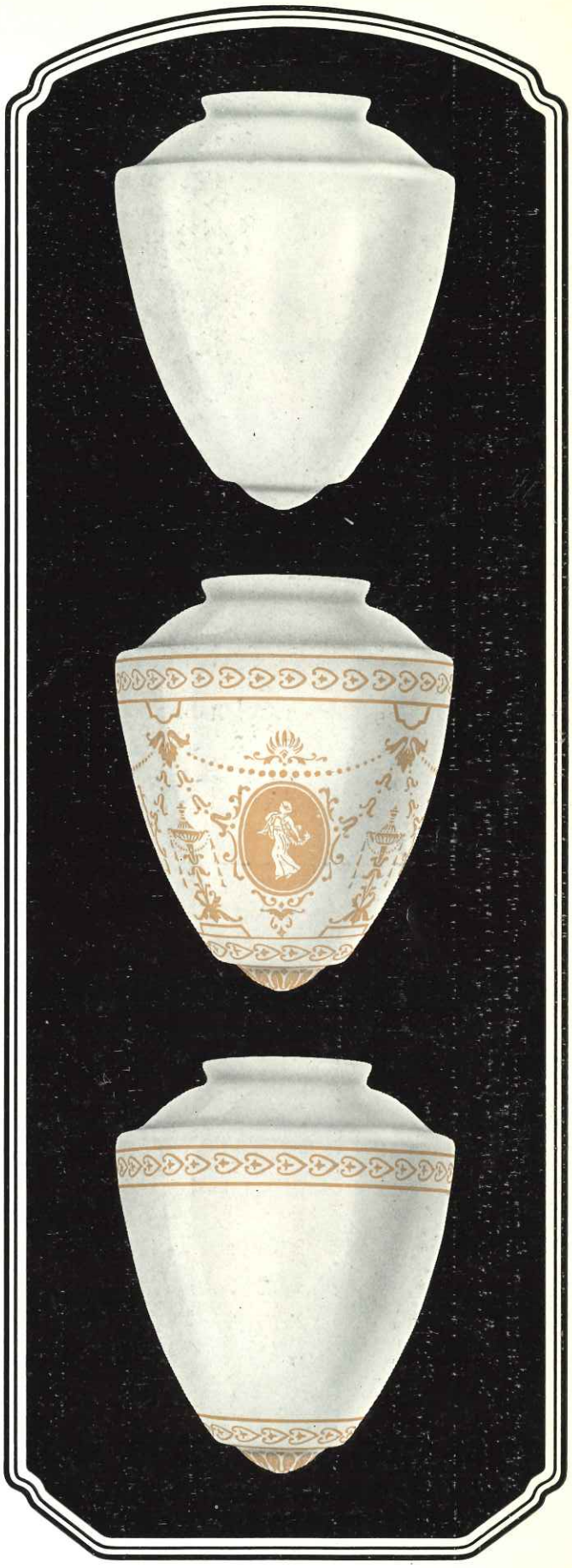
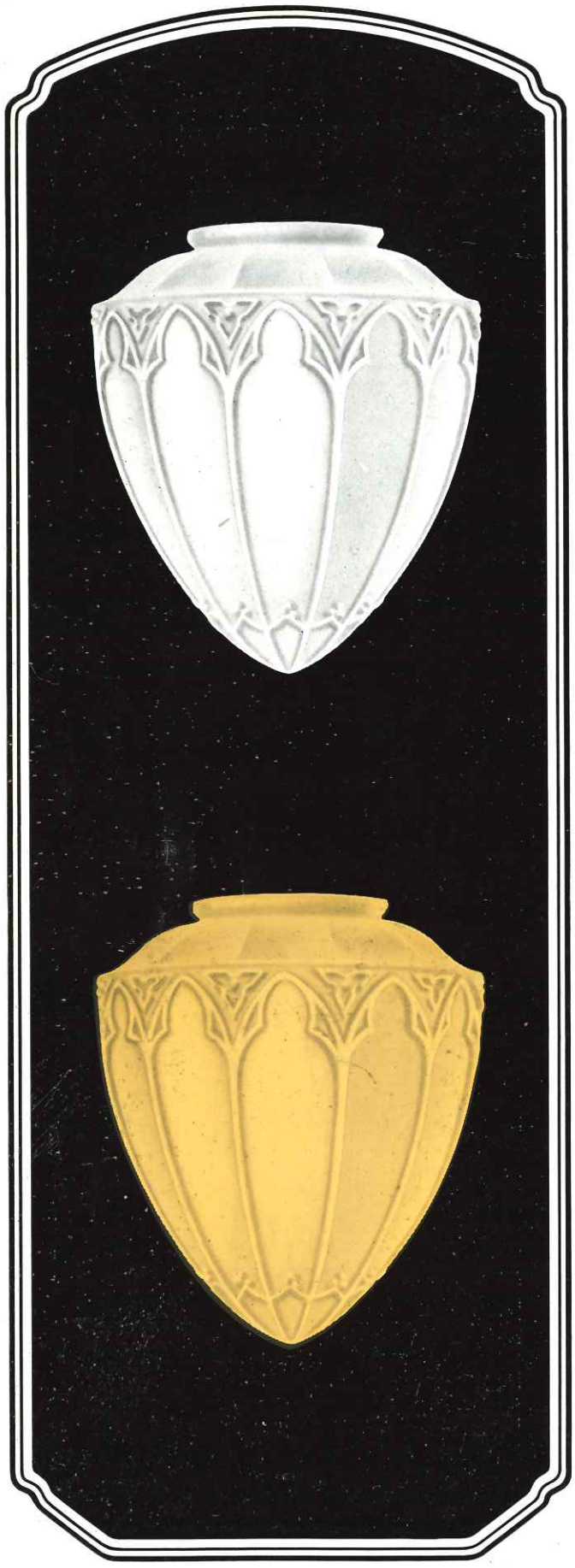
3869-K-181 Light etched decoration. Furnished in all sizes on Monax glass. Colors gray or brown. Please specify color.

3869-K-307 Light etched brown decoration. Furnished in all sizes on Monax glass.



Colors used in these etched designs are permanently fired on the glass.
**Figures indicate distance in inches above or below plane of the fitter screws.*



Monax and Cremax

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
3801	6	6⅝	3¼	60	½ above	Ctn. 2¼ Doz.
3802	8	8⅞	4	100	0	Ctn. 2/3 Doz.
3803	10	11¼	5	150	0	Ctn. 1/6 Doz.
3804	12	13½	6	200	0	Ctn. 1/6 Doz.
3805-A	14	15½	6	300	0	Ctn. 1/12 Doz.

Supplied in either Monax or Cremax. Please specify glass.

3804 Cremax. Furnished in all sizes.

**Figures indicate distance in inches above or below plane of the fitter screws.*

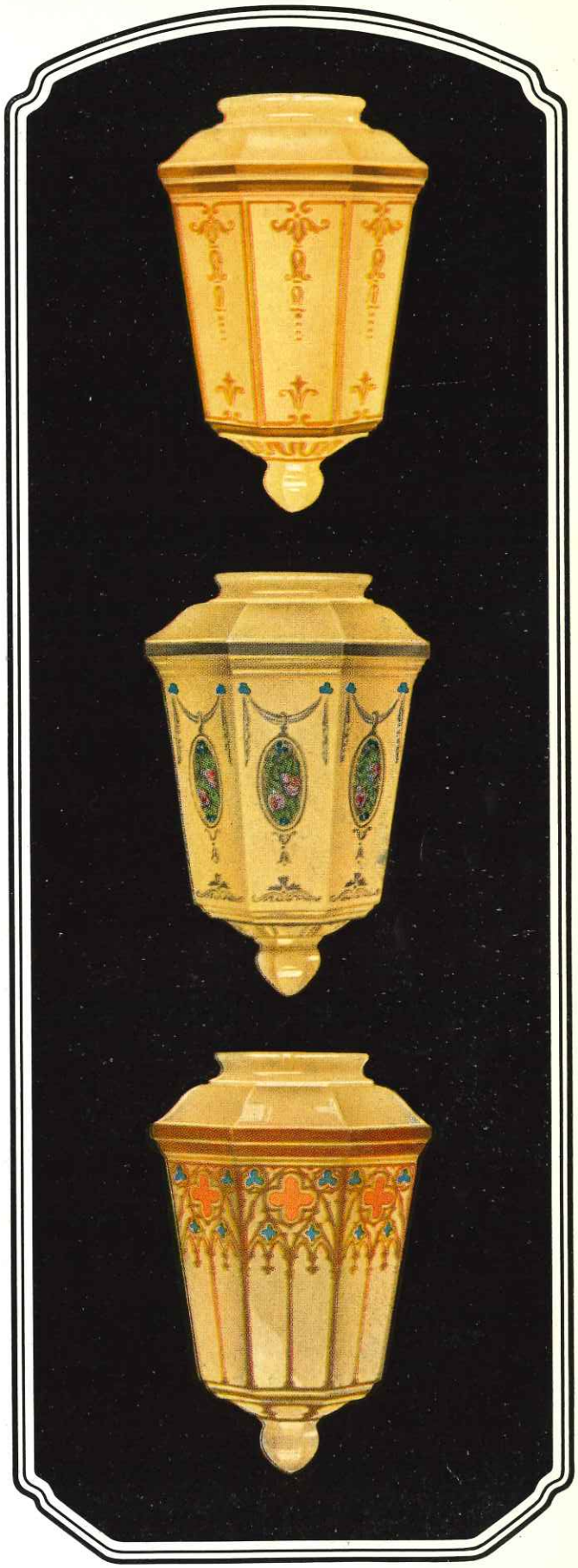
Decorated Cremax Lanterns

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Lamp Position*	Standard Package
4454-K-291	7½	10⅝	4	100	0	Ctn. 1/2 Doz.
4470-K-291	10	13⅞	6	200	0	Ctn. 1/6 Doz.
4477-K-291	12	16½	6	300	0	Ctn. 1/12 Doz.

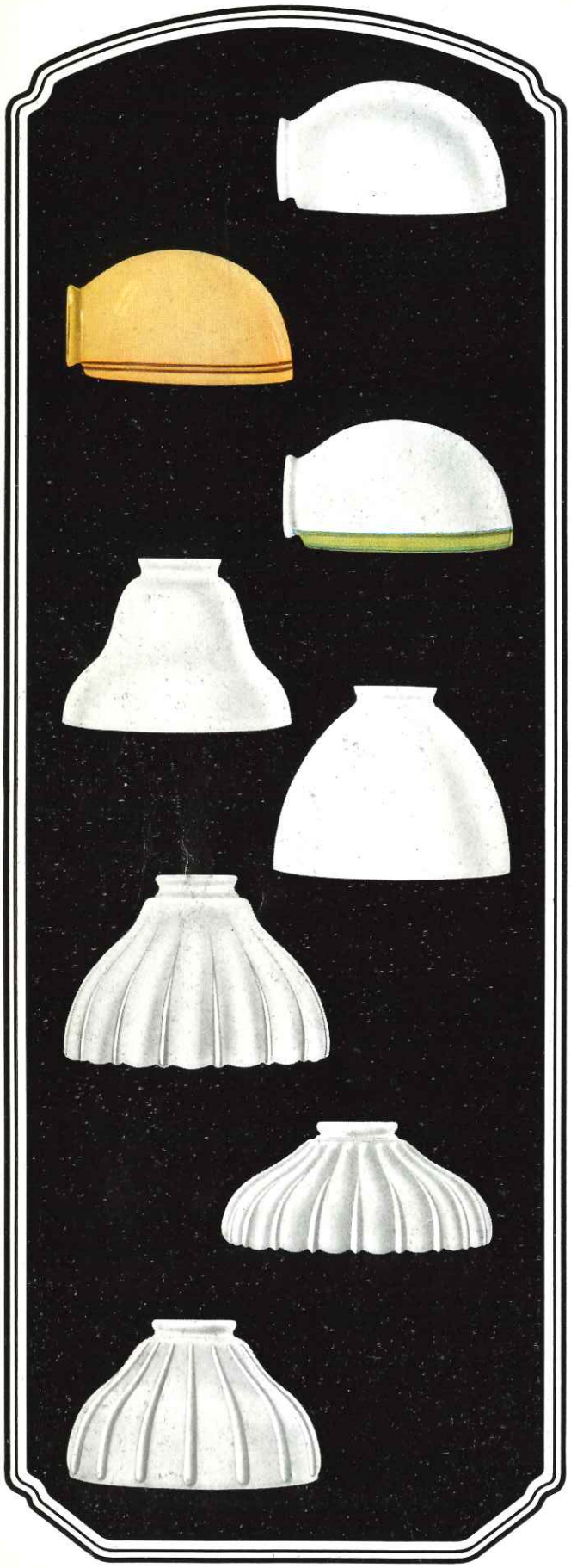
Light etched brown decoration furnished in all sizes.

4470-K-284 Light etched gray design with decorated medallions in black and rose. Furnished in all sizes.

4470-K-108 Light etched brown Gothic decoration with rose and blue quatrefoils. Furnished in all sizes.



The colors used in these etched designs are permanently fired on the glass.
**Figures indicate distance in inches above or below plane of the fitter screws.*



Monax, Cremax and Alba

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Standard Package
4221 Monax	6	3 7/32	2 1/4	40	Ctn. 1 or 4 Doz.

4221-D-121 Cremax.

D-121 Decoration standard in blue, green or brown.

4221-D-56 Monax.

D-56 Decoration standard in blue, green or brown.
The colors in D-121 and D-56 are permanently fired on the glass.

1358 Monax	4 1/2	4 1/8	2 1/4	25	Ctn. 3 Doz.
1391 Monax	6	4 1/4	2 1/4	40	Ctn. 3 Doz.
1460 Monax	7	4 1/2	2 1/4	50	Ctn. 2 Doz.
1461 Monax	8	5	2 1/4	60	Ctn. 1 1/3 Doz.

Supplied only in Monax.

5307 Monax	6 1/4	4 3/4	2 1/4	40	Ctn. 2 Doz.
1623-A Monax	7	5	2 1/4	50	Ctn. 1 Doz.
5308 Monax	8	5 3/4	2 1/4	60	Ctn. 1 Doz.

Supplied only in Monax.

3419 Alba	5 1/8	3 5/8	2 1/4	25	Ctn. 1 Doz.
3420 Alba	5 3/4	4 5/8	2 1/4	40	Ctn. 1 Doz.
3424 Alba	7 1/4	4 3/4	2 1/4	50	Ctn. 2/3 Doz.
3429 Alba	8 1/4	6	2 1/4	60	Ctn. 2/3 Doz.
3446 Alba	10 5/16	6 3/4	3 1/4	100	Ctn. 1/2 Doz.

3431 Alba	7 3/4	3 1/8	2 1/4	50	Ctn. 1/2 Doz.
3432 Alba	9	3 5/8	2 1/4	60	Ctn. 1/2 Doz.
3438 Alba	11	4 3/8	2 1/4	100	Ctn. 1/2 Doz.

3816 Alba	6 5/8	4 1/8	2 1/4	40	Ctn. 1 Doz.
3817 Alba	7 1/4	4 1/4	2 1/4	50	Ctn. 2/3 Doz.
3818 Alba	8 1/2	5 5/8	2 1/4	60	Ctn. 2/3 Doz.
3819 Alba	10 1/4	6 3/4	3 1/4	100	Ctn. 1/2 Doz.

Pressed shades supplied only in Alba glass.

Monax, Cremax and Alba

Glass Number	Diameter Inches	Depth Inches	Fitter Inches	Recommended Wattage	Standard Package
175	8	4		60	Ctn. 1⅓ Doz.
165	10	5		100	Ctn. 1/2 Doz.
160-A	12	6		150	Ctn. 1/3 Doz.

Blown hemispheres supplied in either Monax or Cremax. Please specify glass.

3484	8	4		60	Box 1/2 Doz.
5382	10	5		100	Bbl. 1 Doz.
5383	12	6		150	Bbl. 1/2 Doz.
5385	14	7		200	Bbl. 1/3 Doz.
3461	16	8		300	Bbl. 1/3 Doz.

Pressed Alba ribbed hemispheres.

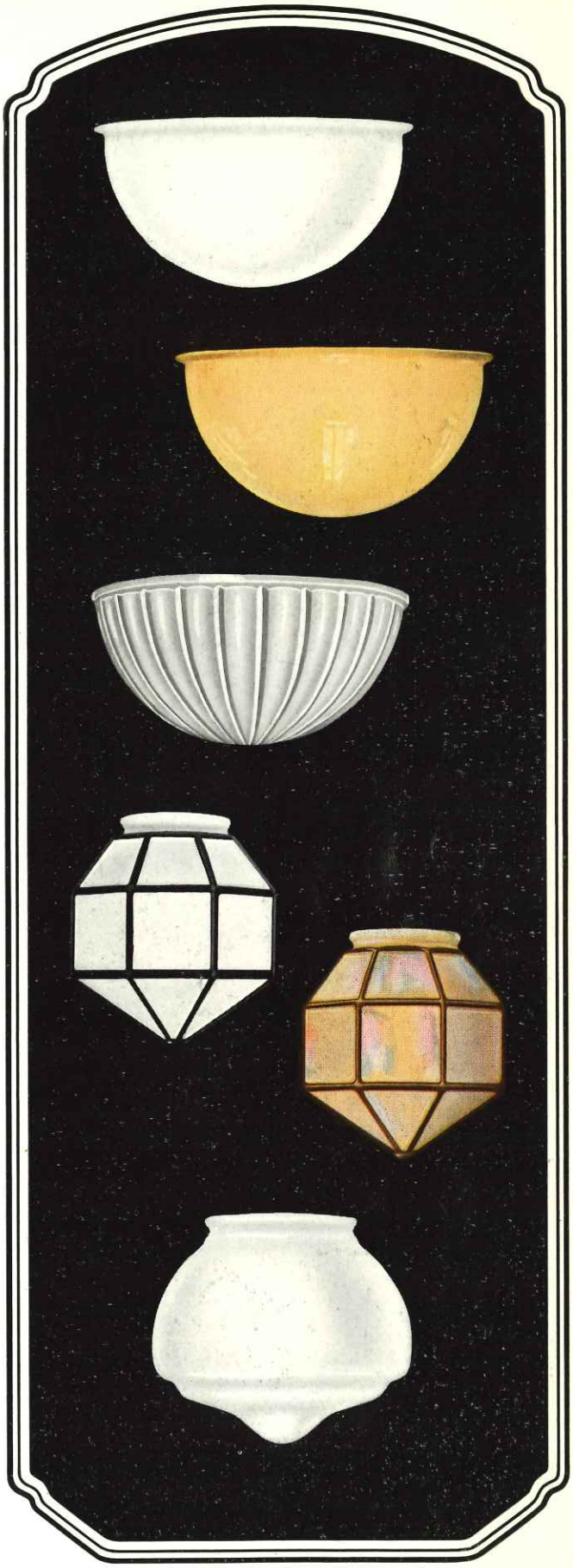
4261-D-120 Monax	6¼	6⅝	3¼	60	Ctn. 2¼ Doz.

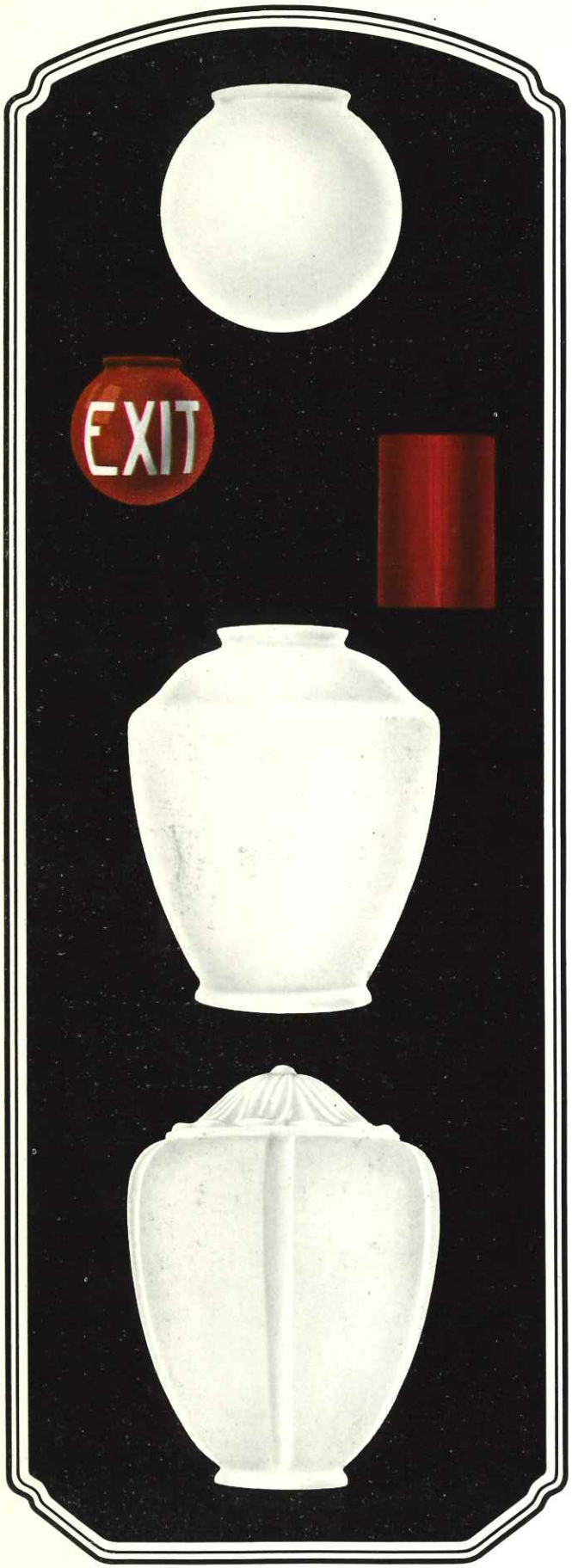
4261-D-120 Cremax Iridescent.

D-120 Monax is decorated with black. D-120 Cremax with brown ribs and iridescent panels. All colors are permanently fired on the glass. Please specify glass.

5183 Monax	8	7½	4	100	Ctn. 1 Doz.
2482 Monax	10	9	6	100	Ctn. 1/3 Doz.
5184 Monax	12	10¾	6	150	Ctn. 1/6 Doz.

Also furnished in Superior glass.





Ornamental Street Lighting & Ball Globes

Glass Number	Diameter Inches	Depth Inches	Top Fitter Inches	Bottom Fitter Inches	Standard Package
828*	6	6	3¼		Ctn. 1 Doz. Ctn. 2¼ Doz.
830x	7	7	3¼		Ctn. 1 Doz.
832*	8	8	4		Ctn. 2/3 Doz.
850	10	10	4		Ctn. 1/3 Doz.
848	10	10	5		Ctn. 1/3 Doz.
849z	10	10	6		Ctn. 1/3 Doz.
838(*)	12	12	6		Ctn. 1/6 Doz.
1527	12	12	8		Ctn. 1/6 Doz.
861	14	14	6		Ctn. 1/12 Doz.
1004	14	14	7		Ctn. 1/12 Doz.
1054z	14	14	8		Ctn. 1/12 Doz.
1528	16	16	6		Ctn. 1/12 Doz.
844(*)	16	16	8		Ctn. 1/12 Doz.
1531	16	16	9		Ctn. 1/12 Doz.
843	18	18	8		Ctn. 1/12 Doz.
1189	18	18	10		Ctn. 1/12 Doz.
1060(x)	20	20	8¼		Ctn. 1/12 Doz.
3737	14	13⅜	6	8	Ctn. 1/12 Doz.
3739	16	14¾	6	8	Ctn. 1/12 Doz.

All above globes furnished in Monax only except as specified below.

*These items standard in Monax Red, Green and Crystal Roughed Inside.

xThis item standard in Monax and Crystal Roughed Inside.

zThese items standard in Monax Red and Green.

(*)These items standard in Monax, Alba Red and Green.

(x)This item standard in Alba only.

828 and 832 Natural red or green glass ball globes are supplied lettered in white with the word "EXIT". They may be secured with the lettering on one or two sides for use in an upright or inverted position. The illustration shows an inverted globe. Please specify clearly the type required.

Natural colored cylinders for use inside ornamental street lighting globes. Furnished in various sizes and shapes in Red, Green or Golden for decorative lighting and danger marking. Information on request.

3836	14	16¾	6	8	Ctn. 1/12 Doz.
3813	16	18½	6	8	Ctn. 1/12 Doz.

Double fitter ornamental street lighting globes supplied only in Monax glass. 6-inch copper or black canopies can be furnished when required.

3824	6	7⅜16	3¼	Ctn. 1 Doz.
3822	10	12	5	Ctn. 1/6 Doz.
3822-A	10	12	6	Ctn. 1/6 Doz.
3822-B	10	12	4	Ctn. 1/6 Doz.
3821-A	14	18½	6	Ctn. 1/12 Doz.
3821-B	14	18½	8	Ctn. 1/12 Doz.

Supplied only in Monax glass.

Monax Advertising Globes

Glass Number	Diameter Inches	Width Inches	Height Inches	Fitter Inches	Standard Package
5545	8	3⅞	8	3¼	Ctn. 1/12 Doz.
5547	10	4½	10	3¼	Ctn. 1/12 Doz.
5512	12	6⅛	12 3/16	4	Ctn. 1/12 Doz.
5512-A	12	6⅛	12 3/16	6	Ctn. 1/12 Doz.
5513	14	7⅛	14⅜	6	Ctn. 1/12 Doz.
5513-A	14	7⅛	14⅜	7	Ctn. 1/12 Doz.
5513-B	14	7⅛	14⅜	4	Ctn. 1/12 Doz.
4226	16	8¼	16 3/16	6	Ctn. 1/12 Doz.
5514-A	16	8¼	16 3/16	7	Ctn. 1/12 Doz.

The globes listed above are type A as shown in the first illustration from front view and the second illustration from end or side view.

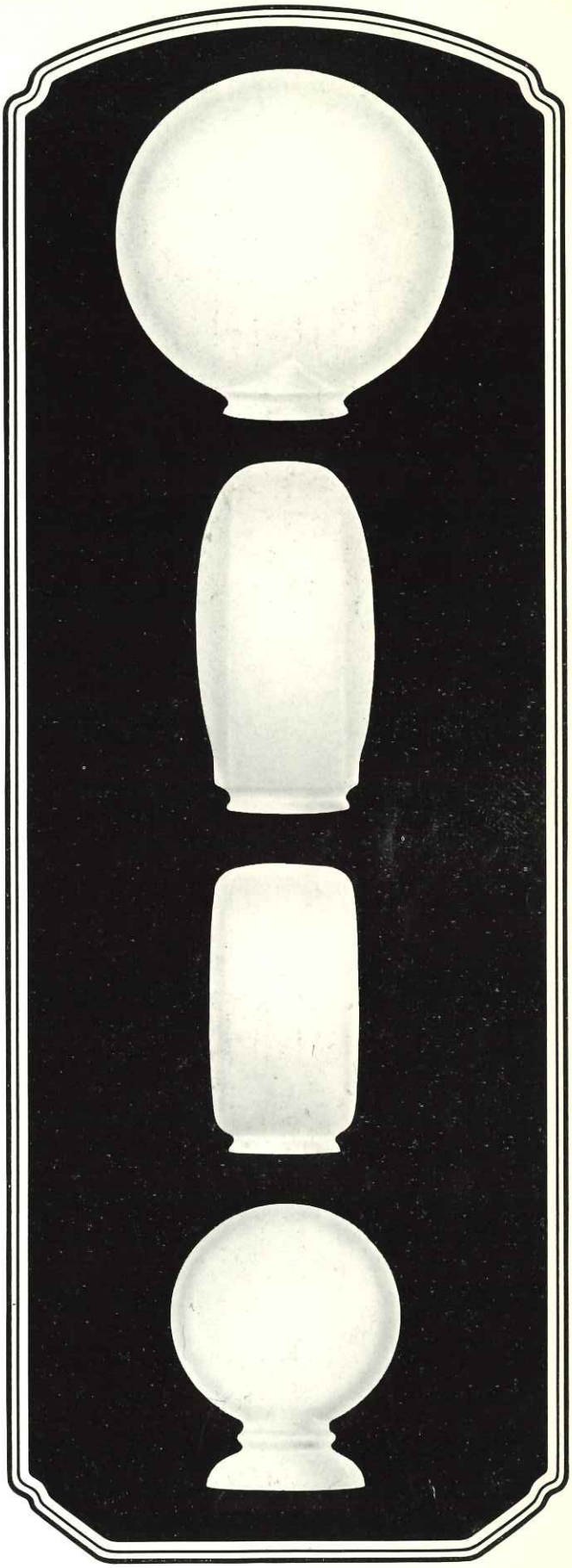
5423	8	4⅛	8⅛	4	Ctn. 1/12 Doz.
5424	10	5⅛	10⅜	4	Ctn. 1/12 Doz.

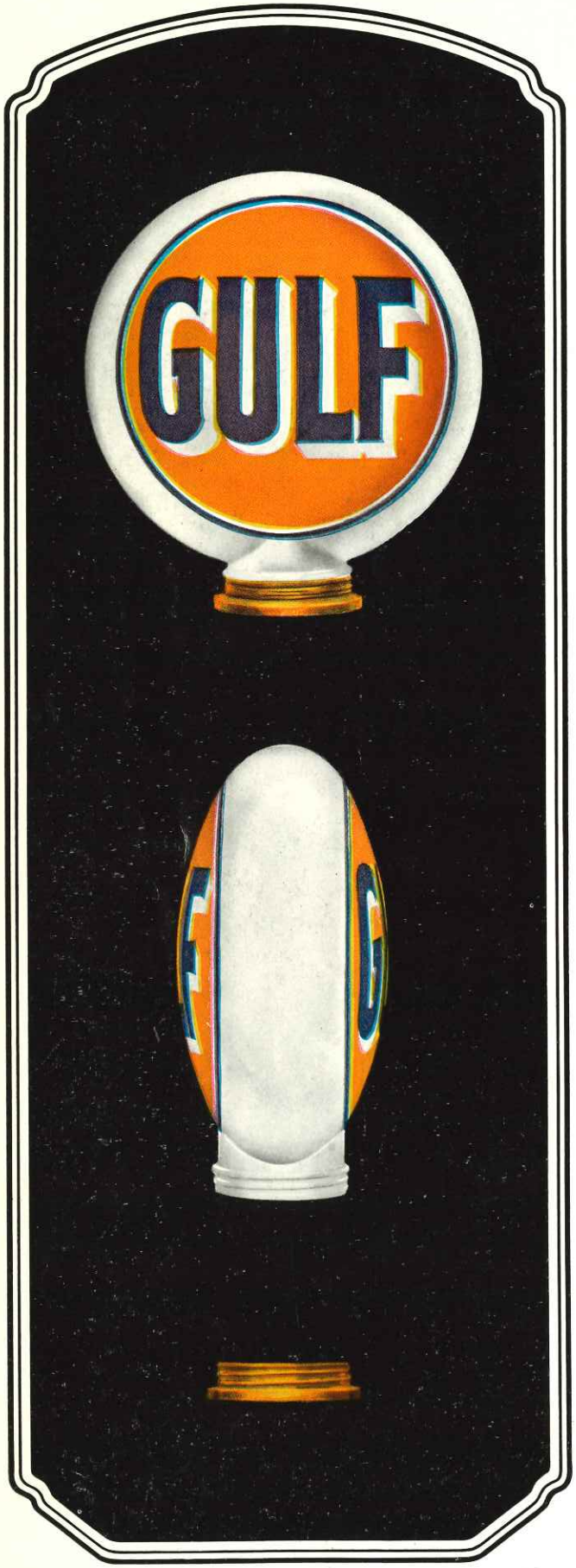
These two globes are furnished only in type B as shown in the third illustration from side or end view.

5545-A	8	3¾	10	*5½	Ctn. 1/12 Doz.
5547-A	10	5	11¾	*6¾	Ctn. 1/12 Doz.

These two globes are type A. Instead of a standard fitter they have a glass base. They are blown in one piece and are made to set upright over a lamp.

**Figures indicate diameter of base fitter in inches.*





Metal Fitter Advertising Globe

Glass Number	Diameter Inches	Thickness Inches	Height Inches	Metal Fitter Inches	Standard Package
5544	16	8	17⅛	6	Ctn. 1/12 Doz.

Monax globe with screw threads to which a metal fitter is attached.

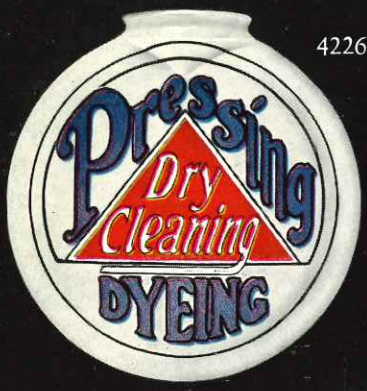
PATENT OFFICE
OCT 20 1930
DIV. 55

The decoration illustrated is that of the Gulf Refining Company. Estimates for any special decoration will be furnished upon request.

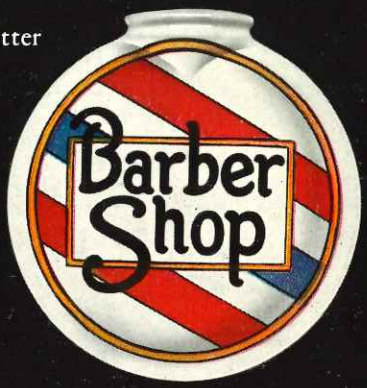
All colors are permanently fired on the glass after which a special preservative treatment is applied for additional protection against unfavorable atmospheric conditions.

Decorated Advertising Globes

4226 Monax—16-inch Diameter—6-inch Fitter



No. 2



No. 6

No. 5

No. 7

No. 9

No. 10

No. 18

No. 27

Additional Designs

No. 1—Shine
No. 3—Police Station
No. 8—Say It With Flowers
No. 11—Hair Bobbing
No. 12—Fruit Produce
No. 13—Bakery
No. 14—Delicatessen Shop
No. 15—Hand Laundry
No. 16—Pressing, Dry Cleaning
No. 17—Fish and Oysters—Fresh Daily
No. 19—Tailoring
No. 20—Tailoring, Dry Cleaning, Pressing
No. 21—Delicatessen, Groceries
No. 22—Hat Cleaning, Blocking, Shoe Shining
No. 23—Dentist
No. 24—Sodas, Prescriptions
No. 25—Soda Fountain, Ice Cream
No. 26—Real Estate and Insurance
No. 28—Painting and Paper Hanging
No. 29—Plumbing and Heating
No. 30—Live Poultry Dressed Free
No. 31—Hosiery
No. 32—Cigars and Candy
No. 33—Hardware
No. 34—Millinery
No. 35—Furniture
No. 36—Dry Goods
No. 37—Dressmaking
No. 38—Drugs
No. 40—Soft Drinks
No. 41—Meats, Groceries
No. 42—No Left Turn
No. 43—Furnished Rooms

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